

OFFICE OF INSTRUCTIONAL PROGRAMS AND SERVICES
Summary of State Board of Education Agenda Items
January 15-16, 2009

Office of Student Assessment

10. Approval to begin the Administrative Procedures Act process: To revise the Mississippi Extended Curriculum Frameworks for Language Arts, Mathematics, and Science

Executive Summary

On December 9, 2003, the U.S. Department of Education provided regulations on Title I under the No Child Left Behind (NCLB) Act allowing states to establish alternate achievement (curriculum) standards for students with the most significant cognitive disabilities and to use these standards in assessing students' performance on Adequate Yearly Progress (AYP) goals. Without these regulations, students with significant cognitive disabilities would have to be assessed against grade-level standards and considered 'not proficient' when states measure AYP. In issuing the regulations, the U.S. Department of Education clarified the meaning of the regulations.

- Alternate achievement (curriculum) standards must be aligned with the State's academic content standards, promote access to the general curriculum, and reflect professional judgment of the highest learning standards possible for the group of students with the most significant cognitive disabilities.
- In practice, alignment with the State's academic content standards means that the State has defined clearly the connection between the instructional content appropriate for non-disabled students and the related knowledge and skills that may serve as the basis for a definition of proficient achievement for students with the most significant cognitive disabilities.
- The alternate achievement standards may include prerequisite or enabling skills that are part of a continuum of skills that culminate in grade-level proficiency. The use of alternate achievement standards, however, must not result in inappropriate placements or assignment of students to a curriculum that does not include academic content.

Based on this guidance from the U.S. Department of Education, the curriculum standards for students with significant cognitive disabilities can be viewed as extensions of the general curriculum standards. NCLB requires curriculum standards for language arts, mathematics, and science.

During the U.S. Department of Education Standards and Assessments Peer Review process some deficiencies were noted in the MECF that resulted in non-compliance with the regulations. The National Center for the Improvement of

Educational Assessment (NCIEA), an external consultant familiar with the NCLB regulations and requirements for alternate content standards and alternate assessment, was contracted to identify specific areas for improvement. Targeted areas included strengthening the link to the general education content standards (curriculum frameworks), ensuring grade/age appropriateness, and increasing differentiation across grade spans.

During October 2008 a committee of Mississippi educators, led by an NCIEA expert, was convened to address content gaps and alignment concerns identified in the existing Extended Curriculum Frameworks. Both general education and special education teachers participated to ensure that content was both academic and written to be accessible to students with significant cognitive disabilities. The content objectives were revised, and the classroom activities were also updated.

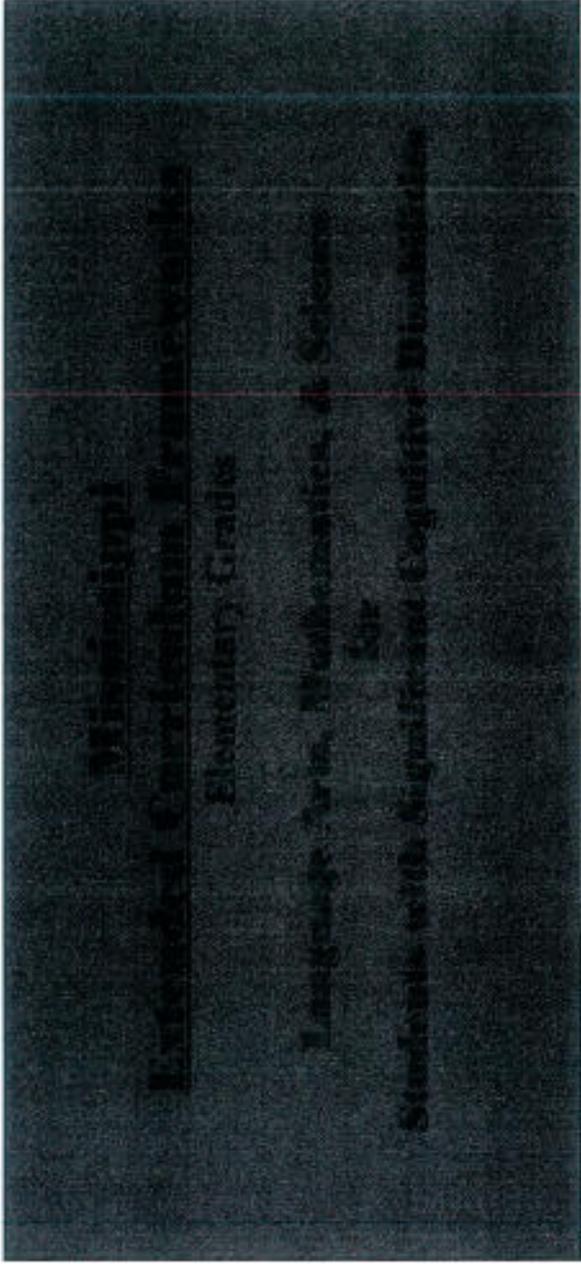
The Extended Curriculum Frameworks are grouped into three levels:

- Elementary Grades – intended for SCD students in grades 3-5 or ungraded students age 8-10
- Middle Grades – intended for SCD students in grades 6-8 or ungraded students age 11-13
- High School Grades – intended for SCD students in grade 12 or ungraded students age 18

As a result of the collaboration between special education teachers and general education teachers, revisions were made to the Extended Curriculum Frameworks that not only are appropriate and accessible to the students who will be served, but also reinforce fidelity to the curriculum expectations set forth for general education students. Non-academic content was replaced with content closely linked to the general education content, repeated content across grade spans was eliminated in order to promote growth in student learning, and new classroom examples were developed in order to foster and maintain age/grade appropriate instruction.

Recommendation: Approval

Back-up material attached



The Mississippi Department of Education does not discriminate on the basis of sex, race, religion, age, national origin, ancestry, creed, pregnancy, marital or parental status, sexual orientation, or physical, mental, emotional or learning disability.

Revised October 2008

Introduction

The Mississippi Extended Curriculum Frameworks (MECF) Elementary Grades includes curriculum content that students with significant cognitive disabilities in grades 3 through 5 are expected to access and learn during the course of their instructional programs. The primary purpose of this document is to share the prioritized academic content with teachers, family members, and other educational stakeholders, and to guide the development of high-quality alternate assessments that assess the knowledge and skills representative of these extended standards. In this document, we provide: (a) a rationale for alternate assessment content standards; (b) the curriculum frameworks that bring these content standards to life for language arts, mathematics, and science instruction; and (c) some resources to support implementation in classrooms across Mississippi. This revised version of the MECF also includes additional guidance for teachers by including a number of sample “age-appropriate” classroom activities and possible support skills that can be used to plan classroom instruction that stimulates the development and use of the desired academic knowledge and skills.

Revised guidelines. Teachers can use this document to plan instruction and collect student work samples (e.g., documented teacher observations, student work products, recorded media) that can be used to establish a baseline about what students know and can do now (at the beginning of the school year) and to measure progress on the same skills and concepts later in the school year.

Legal and Policy Context for Extended Content Standards and Assessments

Three main federal initiatives have significantly influenced special education practices (McDonnell, McLaughlin, & Morrison, 1997): the Individuals with Disabilities Education Act (IDEA) in 1997, Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990 (ADA). The 1997 IDEA reauthorization mandates that students with disabilities be held to the same educational standards as students without disabilities. These policies converge on two main points: (1) Students with disabilities have the right to a free and appropriate public education, and (2) students with disabilities must be held accountable to the same educational standards as students without disabilities. Educational policies, however, are not often prescriptive as to how students with disabilities are to be provided an education comparable to that of their general education counterparts. Furthermore, since one of the main philosophies of special education is to provide an individualized education program for each student, it is often unclear to what degree students with disabilities should be held to the same educational standards as general education students (McDonnell, et al. 1997).

For the majority of students with disabilities, participation in state and district assessments involves taking existing standardized tests with testing accommodations. A small percentage of students (an estimated 1%), however, have disabilities that make their participation in general state- and district-wide tests impractical—and likely to result in inaccurate measures of their academic achievement.

This emphasis on attaining academic achievement represents a change from the previous focus on curriculum and inclusion practices traditionally provided to many students with significant disabilities. Although the law still maintains the right of each student with disabilities to an individually referenced curriculum, outcomes linked to the general education program have become the optimal target. It is no longer enough for students with disabilities to be present in a general education classroom. Students with significant disabilities also must have instruction, modifications, and accommodations that promote their progress toward the educational expectations of the larger student population.

A related concern has been the focus of each state's alternate assessment processes and protocols. Specifically, test developers and policymakers must establish that assessments for students who are unable to take the general assessment: use age-appropriate contexts (e.g., modified grade-level texts or materials), provide flexibility when applying accommodations or modifications so that students with a range of disabilities can demonstrate what they have learned, and should be accessible to students who have not yet fully developed symbolic communication. If alternate assessments are intended to be part of a larger accountability system and to measure progress towards the same educational expectations as desired of the larger student population, then a state's general education academic standards should form the foundation for the alternate assessment. This is the case in Mississippi.

Planning Instruction Using the Extended Content Standards

As previously stated, this document provides the curriculum frameworks that bring the prioritized grade-level content standards to life for language arts, mathematics, and science instruction; suggested resources to support implementation in classrooms; and additional guidance for teachers by including a number of sample "age-appropriate" classroom activities and possible support skills that can be used to plan instruction that stimulates the development and use of the desired academic knowledge and skills. It is expected that teachers working with students with significant cognitive disabilities will incorporate instruction of all identified competencies at every grade level in the grade span. The alternate assessment tasks will be drawn from clusters and objectives most appropriate for specific individual students and their learning strengths and needs. The learning objectives within each cluster were developed to provide a range of breadth and complexity, so that all students can access and demonstrate learning of each grade-level competency.

There is an overview of the competencies and clusters for each content area at the beginning of each section of this document: Language Arts (page 7), Mathematics (pages 16-17), and science (page 27). It is expected that teachers will include several objectives from each cluster when planning instruction and provide opportunities for students to use skills they are working on in one content area to other content areas and other learning goals. For example, students working on data collection and measurement in mathematics will benefit from applying those skills to science inquiry tasks. Students developing their reading comprehension skills and breadth of vocabulary can apply that learning to mathematics, science, and other everyday learning tasks.

MAAECF ELA – Grades 3 – 5

Reading Strand

MECF ELA Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
1. Use word recognition and vocabulary (word meaning) skills and strategies to communicate	Cluster 1A. Concepts of Print			
	R 1A.a	Student locates print and interprets the message/meaning (common symbols and signage, environmental print)	Student finds common symbols and signs around the school (e.g., exit, lunch room, office) in a scavenger hunt. Student matches a common symbol or sign to its word (e.g., McDonald's) or meaning (e.g., food) Student follows a picture schedule Student can identify weather on a chart by choosing the appropriate symbol (clouds, sun)	Using communication system Fine motor skills Turn pages of book
	R 1A.b	Student follows text and demonstrates directionality: left-to right and top-to bottom; 1-1 matching of words spoken to words in print)	Student matches a word to a word (or symbol to a symbol) as teacher reads. Student looks at and uses eye gaze to follow teacher's reading (and tracking of text) in a "big book." Student follows along by touching pictures in a student copy of modified text while teacher reads.	One-to-one correspondence Following directions Visual discrimination
	R 1A.c	Student recognizes or locates the key parts of a book: front and back, print, illustrations, title, and author	Student will respond yes-no when asked, "is this the title?" etc. Given a model, student will touch the title of a book, the author's name, etc.	Turn attention toward another person Vocabulary development
	R 1A.d	Student recognizes that sentences in print are made of separate words.	Using a word wall, student will find individual words from a sentence.	Social interactions
	R 1A.e	Student distinguishes between letters, words, and sentences	Using plastic letters, student will locate individual letters in a word (e.g., students' name) by taking the word apart and putting it back together Using a word wall, student will find individual words to make a sentence.	Turn taking Sight word recognition
	R 1A.f	Student reads high frequency words (e.g., familiar names, personal interests)	Student delivers mail to specific mailboxes/rooms Student matches written names to pictures Student returns student work to peers Given picture and name cards of people, student matches +them to school or home Student draws and labels pictures of people or things	Reaching across midline Auditory discrimination

MECF ELA Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
	R 1C.e	Student identifies roots and affixes (choose 2: un-, re-, -less, -ful)	Student will use wiki sticks to underline prefix or suffix Student will match prefix or suffix to its meaning using pictures, 	
	R 1C.f	Student uses roots and affixes to decode and understand words (choose 2: un-, re-, -less, -ful)	Student will match words with prefix or suffix to a picture/object representing the meaning of that word (e.g., untie to an untied shoe)	Following directions
	R 1C.g	Student classifies words as nouns or verbs	Student uses a graphic organizer to place pictures into categories of people, place or thing	Using an augmentative communication device
	R 1C.h	Student reads simple sentences fluently.	Student identifies verbs and nouns in a short sentence	One-to-one correspondence
	R 1C.i	Student recognizes words that are synonyms and antonyms	Student reads simple sentences describing classmates, family, self. Student reads simple sentences about his/her day	Social interactions
	R 1C.j	Student matches print words to objects.	Student touches objects that represent synonyms or antonyms Student matches words/pictures that words/pictures that mean the same or opposite. Student plays sight word bingo Student matches word cards to objects (Words may be visually presented or in Braille)	Auditory discrimination
	R 1C.k	Student recognizes and reads basic sight words from a recommended word list.	Student plays sight word bingo Student has a "reading bee" with classmates where each team tries to read the most words presented by the teacher	Sight word recognition
	R 1C.l	Student identifies when a word does not make sense in the context used	Student selects from two words or objects that makes a statement true.	Vocabulary development
	R 1C.m	Student determines the correct meaning of a multiple meaning word in a given context.	Given a sentence with a multiple meaning word, student will choose the picture definition that best matches that word (e.g., I saw the game. [ ])	

MECF ELA Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
	Cluster 2B Reading Comprehension			
	R 2B.a	Student matches words or symbols to show understanding of common school and community places or events.	Student matches a book to the word library Student matches pictures of merchandise to the name of a retailer	Sight word recognition
	R 2B.b	Student describes or retells story events when presented with a prompt.	Using objects representing an event, the student sequences them into a cohesive essay or summary	Matching Understanding emotions
	R 2B.c	Student composes simple statements on a topic learned about by reading or listening to text read aloud.	Student completes cloze sentence using newly learned vocabulary After learning about planets, student writes an essay by choosing true statements from a choice of statements	Motor skills
	R 2B.d	Student identifies main idea from what he/she reads or hears read aloud.	Given three objects/pictures that represent the main idea of a story, student will choose the one that illustrates the main idea. Student draws a picture of the main idea	Classifying information
	R 2B.e	Student answers who, what, and where questions about a text read or heard read aloud.	Student answers basic comprehension questions about a text. Student uses pictures from the story to indicate his or her answer to the questions Student uses augmentative communication device to answer yes/no questions about a story (e.g., Was Pippi the main character?)	
	R 2B.f	Student identifies literary elements (character, setting, problem, solution) after reading a story or hearing it read aloud.	Student places pictures in a graphic organizer or story map to identify characters, problem/solution, and setting	
	R 2B.g	Student classifies information from an informational text as fact or opinion	Using a T-Chart, student sorts information as fact or opinion. Student identifies key words that signal opinion (like, think, believe, etc.) Student places an "F" next to facts and an "O" next to opinions	
	R 2B.h	Student paraphrases a message read or from text read aloud.	Student practices "active listening" to a peer by paraphrasing what the peer read aloud or what was seen in video message. Student listens to a story and then retells it to a friend.	

MECF ELA Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
	W 3B.e	Student identifies possible purpose for reading or writing	Student lists purposes of writing or reading (to inform, to entertain, to persuade) Student matches pictures representing purposes of writing/reading the terms	
Cluster 4A Writing Mechanics				
4. Apply Standard English to Communicate	W 4A.a	Student demonstrates understanding of capital letters by matching upper and lower case letters.	Given two boxes, student will put lower cases letters in one box and upper case letters in another Using plastic letters, student will match upper case letters with lower case letters	Communication system Visual discrimination
	W 4A.b	Student composes simple complete sentences.	Student uses objects, symbols, pictures, or words to express complete thoughts (subject + predicate).	
	W 4A.c	Student differentiates punctuation marks (period, question mark, exclamation point) from other letters and symbols.	Student looks at/touches the correct punctuation mark when prompted, "show me the period, etc." Student points to the period at the end of a sentence. Student organizes symbols as punctuation marks vs. not a punctuation mark.	
	W 4A.d	Student uses common spelling patterns to make and spell new words (-at, cat, bat)	Student chooses the correct letter tile or card to complete a word (e.g., _____at). Student draws a house with word family on the roof and writes/places words inside the house	
	W 4A.e	Student accurately spells words from a recommended word list.	Student types his/her new vocabulary words Student spells orally presented words	
	W 4A.f	Student uses capital letters correctly for people's names and at the beginning of sentences, days, and months.	Student uses capital letters when writing her/his own name using computer and keyboard. Student uses capital letters at the beginning of a sentence or for own name using magnetic letters or tiles. Student writes the date with correct capitalization	

MATHEMATICS

EXTENDED CURRICULUM FRAMEWORKS

Mathematics Extended Curriculum Frameworks

Number and Operations Strand: Students recognize, represent, understand, and apply mathematical concepts and processes to situations within and outside of school. The definition of Number and Operations includes a range of skills including: rote counting; using pictures, objects, and symbols to denote meaning from numbers and quantities; and demonstrating an understanding of numbers as quantities that can be added, subtracted, multiplied, and divided.

Competency 1: Understand relationships among numbers and basic operations. Compute fluently and make reasonable estimates.

- Cluster 1A Counting and Numbers
- Cluster 1B Basic Facts
- Cluster 1C Money

Algebra Strand: Students will use symbolic forms to represent, model, and demonstrate understanding of mathematical situations and apply mathematical concepts and processes to situations within and outside of school. Patterns, Functions, and Algebra include such skills as discrimination, sorting, matching, and sequencing.

Competency 2: Explain, analyze, and generate patterns, relationships, and functions using numerals, symbols, words, and/or manipulatives.

- Cluster 2A Pattern Recognition

Geometry Strand: Students will use representation, visualization, spatial reasoning, and symmetry to solve problems. Geometry and Spatial Relations includes demonstrated understanding of size, shape, and location, applied for a variety of purposes and to a variety of situations.

MAAECF Mathematics – Grades 3 – 5

		Numbers and Operations Strand		
MECF Mathematics Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
1. Understand relationships among numbers and basic operations. Compute fluently and make reasonable estimates.	Cluster 1A. Counting and Numbers			
	MN1A.a	Student role counts from memory (at minimum) from 0 to 10.	Student eye gazes numbers in rote order Student points to numbers in order	Large numbers
	MN1A.b	Student identifies numerals (at minimum) 0 to 10.	Toss a beanbag at the correct number stated Toss a beanbag and state the number that the bean bag hits	Embedded communication skills (Picture communication symbols; tactile representations, switches, voice output devices, yes/no, eye gaze, etc.)
	MN1A.c	Student lists three whole numbers in proper numerical order.	Given three whole numbers, student will place the numbers in the correct sequence Given a whole number, student will identify the numbers that comes before and after the given number	Reach and grasp
	MN1A.d	Student determines the number of objects in a set.	Student will count the number of manipulatives in a group. Student counts groups on a worksheet. Given three numerals and a group items student matches the correct numeral to the number of items	Reach, grasp, and release
	MN1A.e	Student demonstrates 1-to-1 correspondence in a variety of contexts.	Student passes out one item per person	
	MN1A.f	Student determines "first" through "tenth" (ordinal numbers), "next" and "last" positions.	Given objects, picture, people in a line, student will identify first, second, next, and last.	

MECF Mathematics Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
	MN1B.e	Student estimates sums and differences of whole numbers.	Given math problems, student uses rounding to estimate the sum or difference. Given math problems, student uses composing/decomposing strategies to estimate sum or difference (e.g., $32 + 12$, $30+10$ is 40, $2 + 2$ is 4, answer is 44)	
	MN1B.f	Student identifies that 0.50 is equivalent to $\frac{1}{2}$.	Using hundreds chart, student cuts chart in half, then identifies how many units out of 100 are in half. Student matches $\frac{1}{2}$ to the appropriate representation of .50 using hundreds blocks (units, rods, and mats)	
	MN1B.g	Student identifies and models representations of fractions with denominators of 2, 3, 4, 5, 6, 8, 10.	Student plays fraction bingo Student matches flashcards of fractions with picture representations of the fractions Student creates models of fractions using student drawn models, folding paper, manipulatives, etc.	
	MN1B.h	Student models multiplication using arrays, equal-sized groups, area models, or equal-sized moves on the number line, etc.	Student uses unifix cubes to model multiplication arrays. Student uses graph paper to color multiplication arrays. Student matches multiplication arrays to a given number sentence ($2 \times 5 = \square$)	Increase vocabulary Embed Mode of communication
	MN1B.i	Student uses symbols (+, =) and vocabulary (add, plus, sum, total) of addition and symbols (-, =) and vocabulary (subtract, minus, difference) of subtraction.	Given a situation (word problem) student identifies word that represents +, = (e.g., more, total, combined, in all, etc.) Given a situation, student identifies word that represents -, = (e.g., take away, loses, subtracts, less, difference, etc.)	Increase content vocabulary
	Cluster 1C. Money			
	MN1C.a	Student identifies different coins and currency by name.	Student sorts coins and bills by denomination. Student uses play money to demonstrate ability to identify coins and currency. Student plays money bingo.	Increase content vocabulary

MAAECF Mathematics – Grades 3 – 5

Algebra Strand

MECF Mathematics Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
<p>2. Explain, analyze, and generate patterns, relationships, and functions using numerals, symbols, words, and/or manipulatives.</p>	Cluster 2A. Pattern Recognition			
	MA2A.a	Student matches a pattern of objects or pictures.	Given a pattern of objects or pictures, student will choose the matching pattern from multiple choices Given a worksheet with different patterns, student will draw a line to the matching pattern Shown two patterns, student will indicate if the pattern is the same	Understanding same and different
	MA2A.b	Student sorts objects into categories and identifies the rule for sorting (e.g., same color, same shape).	Given a variety of animal pictures (objects, etc.) the student will sort based on an attribute and explain (fur vs. feather or two-footed vs. four-footed, etc) Given two different shapes in two different colors and sizes, student will sort into groups and identify "rule" (all circles and triangles, or all red and green, or all large and small, etc.)	Number recognition Matching numbers
	MA2A.c	Student creates a variety of repeating patterns (e.g., auditory: tap, clap; tactile or visual: XOXO; AABBAABB; numeric: 1,2,1,2).	Student creates a simple color pattern (red, blue, red, blue). Given a variety of shapes, student creates a repeating shape pattern (triangle, square, circle, triangle, square, circle, etc.)	Counting Basic Addition
	MA2A.d	Student uses number patterns to skip count by 2's, 3's, 5's, and 10's.	Student uses hundreds chart and skip counts by marking every other number of the chart, by marking every 5 th number, etc. Student skip counts by 2's counting pennies, by 5's counting nickels, and by 10's using dimes. Student counts coins by using Touch Points and counting by 5's	
	MA2A.e	Student models, identifies, and demonstrates inverse relationships between addition and subtraction.	Given an addition problem, student will identify the subtraction problem that represents the inverse relationship and solve it. Given an addition problem, student will write the subtraction problem that represents the inverse relationship and solve it	

MAAECF Mathematics – Grades 3 – 5

Geometry Strand

MECF Mathematics Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
		beside) to describes the location of an object.	Student uses picture symbols representing positional words and points to the correct symbol as it relates to the position of an object.	Follow directions
	MG3B.b	Student uses positional words (in, above, below, over, under, beside, left, right) to describes the location of an object on a simple map.	Student describes where a specified person or thing is using a classroom map (e.g., Suzie is on my right)	
Cluster 4C. Understanding Lines and Angles				
	MG4C.a	Student identifies parallel and intersecting lines and perpendicular lines.	Student identifies parallel and intersecting lines in everyday objects (e.g., train tracks, fence posts) Student identifies parallel and intersecting lines in letters and symbols.	Increase content vocabulary
	MG4C.b	Student identifies a right angle, acute angle, and obtuse angle.	Student uses a graphic organizer and sorts shapes as having right, acute, or obtuse angles.	Visual discrimination

MAAECF Mathematics – Grades 3 – 5

Measurement Strand				
MECF Mathematics Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
	MM4B.c	Student selects appropriate tools and units to accurately measure in a given situation.	organizer, etc. when presented two at a time. Given a specified task, student will choose the tool and unit to complete the task (e.g., Measure how tall your teacher is, measure the length of your pencil) Student selects the appropriate tool and units to measure water needed to make lemonade, given choices (e.g., a liquid measuring cup, a gallon jar, and tablespoon).	
	MM4B.d	Student measures with a ruler, tape measure, or yardstick.	Students measure each others height. Student measures a variety of objects in the classroom.	

SCIENCE
EXTENDED CURRICULUM FRAMEWORKS

Science Extended Curriculum Frameworks

Inquiry Strand

- Competency 1: Use tools and instruments to plan, conduct, and evaluate simple science experiments.**
 - Cluster 1A Conducts Experiment
 - Cluster 1B Interprets Data
 - Cluster 1C Communicates Findings

Earth and Space Systems Strand

- Competency 2: Identify and describe features of the Earth and other objects in space.**
 - Cluster 2A Planets
 - Cluster 2B Earth's Structure
- Competency 3: Identify and describe weather and weather patterns.**
 - Cluster 3A Weather

Life Science Strand

- Competency 4: Identify and describe animals and plants and their environments.**
 - Cluster 4A Plants and Animals
 - Cluster 4B Environmental Factors
- Competency 5: Identify and describe structures of living systems and their functions.**
 - Cluster 5A Structures of Living Systems

Physical Sciences Strand

- Competency 6: Demonstrate an understanding of basic concepts regarding matter, energy, motion.**
 - Cluster 6A Matter and Changes
 - Cluster 6B Force and Motion
 - Cluster 6C Forms of Energy

MAAECF Science – Grades 3 – 5

Inquiry Strand

MECF Science Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction	
1. Use tools and instruments to plan, conduct, and evaluate simple science experiments. (continued)		accurate statement based on data; identifies a trend or result)	Using "Boardmaker," create pictures to Velcro to a felt board. Watch a science experiment/video and have student describe what he or she observes.		
	Cluster 1C. Communicates Findings				
	SI1C.a	Student communicates understanding of concepts or results by choosing correct or appropriate outcome/summary	Student uses a switch to answer yes/no or true/false to statements provided Student uses graphic organizer and objects or pictures to show results	Embed mode of communication Increase content vocabulary Organizing Follow directions	
	SI1C.b	Student develops a graph, chart, or other visual representation (e.g., labeled drawing, diagram, model) to communicate the results on an investigation.	Student creates a pictograph (e.g., using pictures of suns, clouds, rain) to label and then report the weather data collected over a period of time (week, month, etc.) Student creates a bar graph based on data (e.g., numbers counted)		
SI1C.c	Student uses multiple sources of information (print and/or other media) to answer science-related questions.	Student uses pictures, objects, or words to complete a graphic organizer to plan a report Student uses an augmentative communication device to convey an idea on a topic Student uses computer or new media to answer questions			
SI1C.d	Student uses science vocabulary from instruction to ask questions, connect predictions to explanations, and communicate ideas	Student chooses picture symbols to describe a science field trip. Using "Boardmaker," create pictures to Velcro to a felt board.			

MAAECF Science – Grades 3 – 5

Earth & Space Science Strand

MECF Science Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
features of the Earth and other objects in space.		mantle, core) using a model or diagram	Student uses various fruits to show 3 layers (peel=crust; meat=mantle; seed = core) Student makes relief map using library resources and clay	Motor skills Increase content vocabulary
	SE2B.b	Student sorts and classifies rocks and minerals by physical features	Given two boxes, student will put _____ in one box and _____ in another box.	
	SE2B.c	Student identifies and compares various land forms (mountain, delta, valley, plateau, plains)	Student makes and labels relief map using library resources and clay	
	SE2B.d	Student identifies and compares various bodies of water (lake, river, stream, ocean, fresh and salt water)	Student makes and labels relief map with different bodies of water using library resources	
3. Identify and describe weather and weather patterns.				
	Cluster 3A. Weather			
	SE3A.a	Students compare and contrast the seasons.	Student matches pictures of clothing with different seasonal views	
	SE3A.b	Student distinguishes between and among different forms of precipitation (e.g., rain, snow, sleet, hail).	Student uses a switch to answer yes/no or true/false to statements provided about each precipitation type.	
	SE3A.c	Student makes weather instruments in order to observe and describe how they work (e.g., barometer, wind vane, thermometer, rain gauge).	Student observes and describes what happens when simple thermometer is put into refrigerator (red liquid goes down) and then in sunny window sill (red liquid goes up).	
	SE3A.d	Student identifies different instruments used to collect weather data (thermometer,	Teacher demonstrates use of instruments and student repeats use to practice collecting and recording data – student is then asked, "which instrument did we use to	

MAAECF Science – Grades 3 – 5

Life Science Strand

MECF Science Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
	SL4A.e	Student groups animals by common observable features (e.g., color, size, habitat)	Given two boxes, student will put _____ in one box and _____ in another box.	Basic counting
	SL4A.f	Student classifies plants using given scientific criteria (e.g., with and without seeds; flowering and non-flowering; coniferous and deciduous trees; compound/simple leaves)	Student uses library and Internet resources to locate examples to make bulletin board display Student uses a school/community field trip to find examples of coniferous and deciduous tree or simple/compound leaves for a plant scrapbook	Sorting/classifying Visual discrimination
	SL4A.g	Student classifies animals using given scientific criteria (e.g., vertebrates – invertebrates; fish/bird/amphibian, reptile, mammal)	Use library and Internet resources to look up and complete T-chart or table with examples Use field trip to find and photograph examples of each vertebrate/invertebrate to be charted	
	SL4A.h	Student sequences life stages of plants or animals and compare the life stages of different organisms.	Use photos of lab experiment to grow plants from seeds to sequence stages Use photos of family members	Sorting/classifying Sequencing
	SL4A.i	Student identifies basic needs of plants and animals (i.e., water, food, air, and shelter)	Student uses a switch to answer yes/no or true/false to statements about what living things need Care for living organisms over time and use "daily jobs" to list what they need. Select pictures of plants and animals showing which did/did not get what they need	
	SL4A.j	Student develops a food chain using pictures or other media.	Starting with a picture of a food eaten by students, make a food chain to trace its path Use visuals to build variety of food chains, all having sun and plants at the start	
	SL4A.k	Student uses a food chain model to identify organisms	Student uses BINGO game to match roles with organisms	

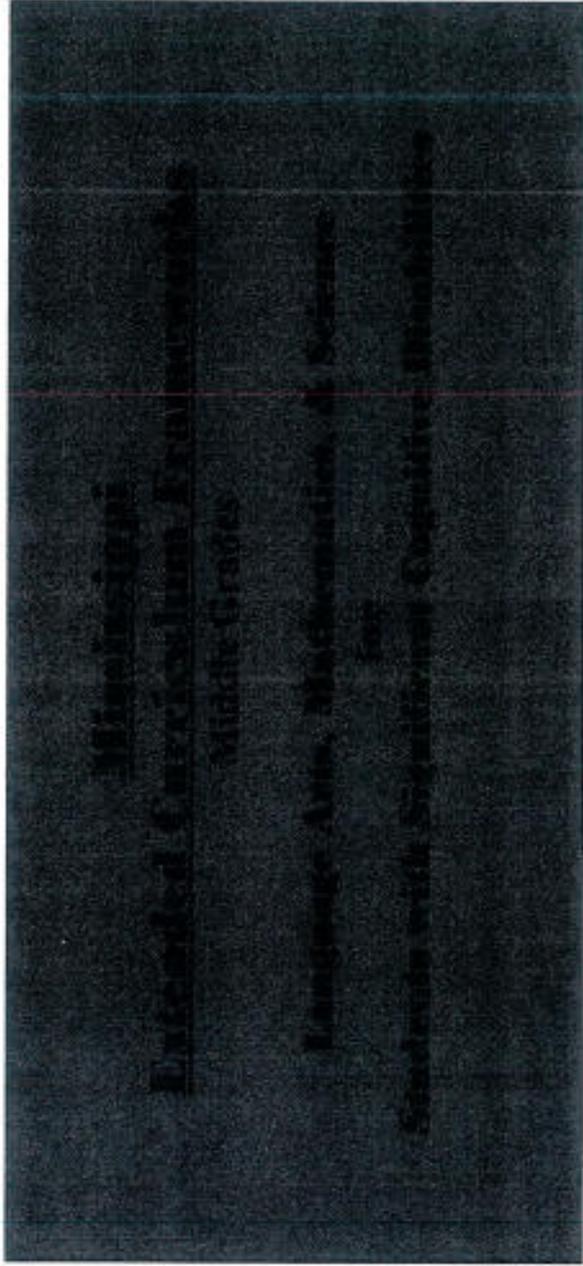
MAAECF Science – Grades 3 – 5

Physical Science Strand

MECF Science Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
regarding matter, motion, and energy. (continued)		their environment	report the weather data collected over a period of time (week, month, etc.). Student creates a bar graph based on data (e.g., numbers counted)	
	SP6C.c	Student identifies different forms of energy (e.g., sound coming from musical instrument, light from flashlight or sun, heat from hairdryer or sun, electricity)	Student uses pictures, objects, or words to complete a graphic organizer to plan a report Student uses an augmentative communication device to convey an idea on a topic	
	SP6C.d	Student identifies examples of kinetic and potential forms of energy	Student uses object (e.g., toy car or ball on ramp) to show potential (not moving) and kinetic energy (moving) Student chooses and sorts picture symbols of objects at rest (potential) and moving (kinetic) energy	
	SP6C.e	Student creates a simple circuit (using battery, insulated wire, and light or bell) to light a light or ring a bell.	Student activates switch to indicate when circuit is completed Labeled photo series of student placing materials in order to make circuit	

- Hess, K. (2008). "Teaching and Assessing Understanding of Text Structures across Grades." [online] available: www.nciea.org
- MA Alternate Assessment Teacher Resource Guide. [Online] Available: <http://www.doe.mass.edu/meas/alt/resources.html> (*online alternate assessment resources for teachers*)
- NJ Alternate Assessment/APA. [Online] Available: <http://pem.ncspearson.com/nj/apa> (*online alternate assessment resources for teachers*)
- Pro Teacher website for Hands-on Science Activities. [Online] Available: <http://www.proteacher.com/cgi-bin/outside.cgi?id=274&external=http://www.energyquest.ca.gov/projects/index.html&original=http://www.proteacher.com/110053.shtml&title=Energy%20Science%20Projects> (*online resources for teaching science*)
- Science Saurus: A Student Handbook* – teacher or student resource for looking up science concepts, examples, and diagrams. Great Source Education Group, Houghton Mifflin Company ISBN# 0-669-48192-0 6/8
- The Internet Picture Dictionary. (2003). [Online] Available: www.picturedictionary.com (*picture dictionary available in several languages which can be used to make worksheets, games, etc.*)
- Texas School for the Blind. (undated). Functional Academics and Functional Skills Department. [Online] Available: <http://www.tsbvi.edu> (*ideas and materials for adapting academic content for students with visual impairments*)
- Utah State University. (2003). National Library of Virtual Manipulatives [Online] Available: http://www.matti.usu.edu/nlvm/nav/topic_1_2.html (*virtual manipulatives that can be arranged online to solve or illustrate math problems – includes measurement, geometry, and algebra*)

- Shortening the text
- Presenting a synopsis of the text
- Highlighting important information
- Pairing text with pictures, objects or tactile cues
 - When pairing text with pictures it may be a one-to-one correspondence (one picture for each word) or it may be one picture that summarizes the text
- Translating the text to Braille
- Chunking relevant information
- Creating a story bag that corresponds to the text (using representative objects for main characters/ideas from the text)
- Rewriting using different vocabulary



The Mississippi Department of Education does not discriminate on the basis of sex, race, religion, age, national origin, ancestry, creed, pregnancy, marital or parental status, sexual orientation, or physical, mental, emotional or learning disability.

Revised October 2008

Introduction

The Mississippi Extended Curriculum Frameworks (MECF) Middle Grades includes curriculum content that students with significant cognitive disabilities in grades 6 through 8 are expected to access and learn during the course of their instructional programs. The primary purpose of this document is to share the prioritized academic content with teachers, family members, and other educational stakeholders, and to guide the development of high-quality alternate assessments that assess the knowledge and skills representative of these extended standards. In this document, we provide: (a) a rationale for alternate assessment content standards; (b) the curriculum frameworks that bring these content standards to life for language arts, mathematics, and science instruction; and (c) some resources to support implementation in classrooms across Mississippi. This revised version of the MECF also includes additional guidance for teachers by including a number of sample “age-appropriate” classroom activities and possible support skills that can be used to plan classroom instruction that stimulates the development and use of the desired academic knowledge and skills.

- Revised guidelines and protocols for collecting high quality evidence to support MAAECF ratings are still under development by the state at this time;** however, teachers can begin to use this document to plan instruction and collect student work samples (e.g., documented teacher observations, student work products, recorded media) that can be used to establish a baseline about what students know and can do now (at the beginning of the school year) and to measure progress on the same skills and concepts later in the school year. It is anticipated that rating scales and data collection protocols *could be* revised in the following ways:
- Currently, one rating scale is used in the Mississippi Alternate Assessment of Extended Curriculum Frameworks (MAAECF) to evaluate student performance. It combines accuracy and independence into the same scale. The revised rating scales will likely include two separate rating scales in order to assess accuracy and independence separately on each assessment task. This is an approach currently used by many states’ alternate assessments and has been found to be a much more reliable and valid way to interpret student performance and to measure student progress across the school year. Teachers should begin to document both aspects – accuracy achieved on the task and level of independence in completing the task – when collecting assessment evidence.
 - Currently, the same content objectives are being taught and assessed each year within the same grade span and sometimes even across grade spans. Beginning in 2008-2009, teachers will be focusing their instruction and assessment on different content objectives each year, so that exactly the same content is not being taught year after year. In some cases, such as learning safety rules for science investigations or answering comprehension questions in reading, the same content objective might be required; however, other clusters and specific content objectives will likely be different grade to grade.

In 2002, the No Child Left Behind Act (NCLB) increased the federal government's emphasis on assessment and accountability systems to include requirements for annual statewide assessments of all students in Grades 3-8 and high school in reading/language arts, mathematics, and (by 2007) science. In addition, NCLB requires a disaggregated annual reporting of students' performance to insure that all groups (including students with disabilities) are making adequate progress toward the goal of having all students declared "proficient" on statewide assessments within the next 12 years. Recent interpretations of NCLB requirements by the United States Department of Education (USDOE, 2003) also allow that up to 1% of students in states and school districts may be counted as "proficient" toward federal accountability goals through participation in statewide alternate assessment.

The development and implementation of standards-based alternate assessments represents a promising strategy for increasing the inclusion and achievement of students with significant disabilities; however, it is not without challenges. The first critical challenge facing the state of Mississippi in once again redesigning its alternate assessment system was to ensure that the academic content to be included as language arts, mathematics, and science content was indeed academic and aligned to Mississippi's grade-level content standards. Academic content has been underrepresented in past instruction and research with students with significant cognitive disabilities; therefore extended curriculum frameworks in these curricular areas needed close analysis and revision. According to the National Alternate Assessment Center/NAAC, "to be inclusive of students with the most significant disabilities, states sometimes target Foundational Skills for assessment. These skills are commonly embedded in academic instruction and *are important and appropriate* to capture early academic achievement; but these skills are *not* aligned to academic content, because they are outside the general education construct (NAAC, 2007). Only a small portion of the overall extended curriculum frameworks should include foundational skills. Using the NAAC definition, Foundational Skills are skills that are *the assumed competence at all grade levels* specific to an academic context, such as orienting a book or turning a page as precursors to learning to read; or learning to follow a direction as a precursor to conducting a science investigation.

Defining What Content Alternate Assessments Should Measure

IDEA 1997 clearly states that students with disabilities should have access to the general education curriculum and academic standards. Moreover, this legislation requires that all students have opportunities and instruction allowing them to make progress in acquiring and mastering the skills and concepts included in state and district academic standards. This emphasis on attaining academic achievement represents a change from the previous focus on curriculum and inclusion practices traditionally provided to many students with significant disabilities. Although the law still maintains the right of each student with disabilities to an individually referenced curriculum, outcomes linked to the general education program have become the optimal target. It is no longer enough for students with disabilities to be present in a general education classroom. Students with significant disabilities also must have instruction, modifications, and accommodations that promote their progress toward the educational expectations of the larger student population.

LANGUAGE ARTS EXTENDED CURRICULUM FRAMEWORKS

Language Arts Extended Curriculum Frameworks

Reading Strand: Students use reading skills and strategies to decode and interpret symbols, words, and larger blocks of text. Students demonstrate the ability to use reading to acquire new information, refine perspectives, respond to the needs and demands of society and the workplace, and provide for personal fulfillment.

Competency 1: Use word recognition and vocabulary (word meaning) skills and strategies to communicate.

Cluster 1A. Concepts of Print

Cluster 1B. Phonological Awareness

Cluster 1C. Word Identification, Vocabulary, and Decoding Strategies

Competency 2: Apply strategies and skills to comprehend, respond to, interpret, and evaluate texts.

Cluster 2A. Using Text Features and Text Structures

Cluster 2B. Reading Comprehension

Writing Strand: Students develop a working knowledge of language as well as grammatical structures, diction and usage, punctuation, spelling, layout, and presentation. Students develop the ability to express personal ideas, understandings, desires, and needs in writing.

Competency 3: Express, communicate, evaluate, or exchange ideas effectively.

Cluster 3A. The Writing Process

Cluster 3B. Audience and Purpose

Competency 4: Apply Standard English to communicate.

Cluster 4A. Writing Mechanics

MAAECF ELA – Grades 6 - 8

Reading Strand

MECF ELA Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction	
<p>1. Use word recognition and vocabulary (word meaning) skills and strategies to communicate (continued)</p>		appropriately.	announced antonym Student replaces words in writing with a synonym using a teacher made thesaurus	Vocabulary development	
	R1C.e	Student recognizes and reads basic sight words and simple sentences.	Student plays sight word bingo Student has a "reading bee" with classmates where each team tries to read the most words presented by the teacher	Social interactions	
	R1C.f	Student uses grade-appropriate content vocabulary to sort words by categories, observable features, or function.	Student labels scientific, math, or social studies models/diagrams with appropriate terms Student completes sentences using content vocabulary (objects, pictures, words, etc.) Student uses augmentative communication device to give the correct vocabulary word when the teacher presents an example, category, or function (e.g., tools = category) Student completes cloze sentences with correct word.		
	R1C.g	Student identifies homonyms (e.g., to, two, too; no, know) and their correct uses.			
	R1C.h	Student interprets intended meanings of new words using semantic context cues, such as restatement, example, or contrast.	Given "The boy was <u>furios</u> . He yelled and screamed." The student answers "Was the boy happy, sad, or mad?" Given "The river rapids were scary. The water moves very fast." The student defines rapids by circling the correct answer: fast water, slow water, a river Given "She was <u>exhausted</u> . Not like George who has lots of energy." The student defines exhausted.		
	R1C.i	Student interprets and organizes words having shades of meaning.	Student uses tiles with words of similar shades of meaning and places them on "ladder steps" to show changing meaning (e.g., cool-cold-freezing, talk-shout-scream).		

MECF ELA Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
	R2A.e	Student sequences main parts of a story using transition cues and key words.	Student orders sentences that summarize the story Student uses transition words to complete sentences sequencing the main parts of a story Given 3 picture cards with sentences and 3 cards with key words, the student places the key words with the appropriate sentences	
	R2A.f	Student matches cause with effect from literary and informational texts.	Student uses picture cards to match cause and effect from a text Student completes a graphic organizer with cause and effect from a text (e.g., using pictures, words, tactile cues, objects)	
Cluster 2B Reading Comprehension				
	R2B.a	Student answers appropriately to comprehension questions from both literary and informational text.	Student reads a non-fiction text (adapted) to learn about a science topic and then answers questions about it Student answers cause/effect questions from an adapted novel Student will complete a story map after reading a text (e.g., by places objects from the text in the correct places on the map) Student answers questions about major news events after reading an article (can be modified) Student will select the picture that best illustrates the problem, solution, and character's actions from a text	Sight word recognition Matching Understanding emotions Motor skills
	R2B.b	Student predicts logical events from what he/she read or has heard and confirms predictions after reading or listening.	Student identifies what he/she thinks will happen next and then points to the place in the text that proved him/her right or wrong. Student draws a picture of what he/she thinks will happen next and then draws a picture of what actually happened	Classifying information Vocabulary development
	R2B.c	Student identifies character, plot, and setting of a story.	Student completes a story map with character, plot and setting (using pictures, objects, or words). Student looks at the correct object when asked to identify the main character.	Making choices Communication system

MAAECF ELA – Grades 6 - 8

Writing Strand

MECF ELA Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
3. Express, communicate, evaluate, or exchange ideas effectively.	Cluster 3A The Writing Process			
	W3A.a	Student uses grade-appropriate reference materials to use new words in their writing (e.g., thesaurus, glossary – dictionary)	Student uses teacher-made thesaurus to find synonyms for their own writing. Student uses an object dictionary to define new words Student uses a glossary to look up new content vocabulary words	Communication system Using a computer/switch
	W 3A.b	Student uses words, pictures, signs, objects, or sentences to create a text.	Student uses objects to summarize a story (e.g., "carnivores eat" could be represented as a lion or other carnivore and teeth to represent eat) Student creates a poster on the dangers of drug use	Making choices Social interactions
	W 3A.c	Student composes a friendly letter.	Student places pictures/objects/words into a template for a friendly letter Student writes to a pen pal in another country/state	Turning pages of a book
	W 3A.d	Student develops a message or focused text which incorporates a clear beginning, middle, and end and important details.	Student sends an email to an organization requesting information about a product or service Student writes a science report Student writes a social studies report	Activating a switch Fine motor skills
	W 3A.e	Student outlines ideas for composing a text.	Student completes a graphic organizer as a pre-writing activity (e.g., given a choice of 3 pictures/objects, student will choose one to write about and then choose the appropriate picture/object details relating to that topic)	Computer programs
	W 3A.f	Student revises text using a writer's checklist.	Student reviews a peer's paper using a writing checklist (e.g., complete sentences, easy to read, appropriate grammar, add descriptive words, better order)	

MECF ELA Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
4. Apply Standard English to Communicate	Cluster 4A Writing Mechanics	W4A.a Student accurately spells grade-appropriate high-frequency words.	Student chooses the correct letter tile or card to complete a word (e.g., _____ at). Student participates in a spelling bee. Student completes a spelling test using tiles, stamps, keyboard, pencil/paper, finger spelling.	Communication system
		W4A.b Student applies rule and edits for capitalizations for proper nouns and initial words of a sentence.	Student uses a writer's checklist to review work for capital letters on proper nouns and initial words. Student corrects work on the board. Student types sentences on the computer and edits to ensure correct capital letters.	Visual discrimination Fine motor skills
		W4A.c Student recognizes contractions in isolation and in connected text.	Student highlights/points to/looks at/touches contractions in a text. Student sorts word cards into contractions and non-contractions.	Reaching over midline Making choices
		W4A.d Student correctly uses and edits for basic punctuation marks: end marks, quotations, abbreviations.	Student points to show where period, etc. should go. Student writes a short script, comic strip, or play. Student edits a peer's work for quotations, abbreviations and end marks. Student uses comic strip to locate words that should be in quotation marks if written as a story.	Turn taking
		W4A.e Student understands and uses contractions.	Student matches contractions to the fully written words. Given a sentence with full words, student revises them to make contractions.	
		W4A.f Student composes a variety of simple and compound sentences on a given topic by combining words and phrases.	Student will complete cloze sentences using pictures, objects or words and proper subject/verb agreement. Student arranges pictures/words into compound sentences with proper subject/verb agreement.	
		W4A.g Student edits a variety of simple and compound sentences on a given topic applying basic capitalization, punctuation, grammar, or spelling rules.	Student replaces picture/words/objects to revise sentence subject/verb agreement. Student uses spell check to fix spelling. Student fixes capitalization and punctuation in a text.	

Geometry Strand: Students will use representation, visualization, spatial reasoning, and symmetry to solve problems. Geometry and Spatial Relations includes demonstrated understanding of size, shape, and location, applied for a variety of purposes and to a variety of situations.

Competency 3: Recognize, describe, and compare basic shapes and other geometric and spatial details.

Cluster 3A Shape Recognition

Cluster 3B Relational Concepts

Cluster 3C Understanding Lines and Angles

Measurement Strand: Students use a variety of tools and techniques of measurement to problem solve. Measurement includes a demonstrated understanding of such concepts as time, distance, area and volume, applied for a variety of purposes and to a variety of situations. At a lower level, measurement is being broadly defined to include the concept of more than, less than, and other comparatives.

Competency 4: Understand and use different forms and units of measurement in a variety of contexts.

Cluster 4A Time

Cluster 4B Measuring Objects and Using Information

Data Analysis and Probability Strand: Students will interpret data and make predictions using methods of exploratory data analysis and basic notions of probability. Data Analysis and Probability includes categorization, making choices, and logical reasoning about events or situations.

Competency 5: Collect and report data. Read and understand basic charts, graphs, and tables.

Cluster 5A Collecting and Reporting Data

MECF ELA Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
Cluster 1B. Basic Operations				
	MN1B.a	Student adds double-digit numbers with or without regrouping.	Student uses base ten blocks to add double digit numbers	Follow directions
	MN1B.b	Student subtracts double-digit numbers with or without regrouping.	Student uses base ten blocks to subtract double digit numbers	Use calculator Fine motor manipulation
	MN1B.c	Student applies the basic operations of addition and subtraction in problem solving (e.g., word problems; authentic tasks).	Given a word problem or situation, student will determine whether to add or subtract and solve the problem. Student adds and subtracts to balance checkbook.	
	MN1B.d	Student solves problems involving multiplication or division.	Student uses a multiplication table to multiply and divide problems. Given a word problem or situation, student determines whether to multiply or divide and solves the problem.	
	MN1B.e	Student completes problem solving activities in real-life situations using (+, -) or (X, ÷).	Given a situation or word problem, student identifies words that indicate whether to add, subtract, multiply, or divide and then solves the problem.	
Cluster 1 C. Fractions, Decimals, and Percentages				
	MN1C.a	Student identifies and models improper and mixed fractions.	Student uses manipulatives (area model, set models, number line) to model improper and mixed fractions, then sorts using a graphic organizer.	Number recognition Calculator use
	MN1C.b	Student identifies and models percents appropriately.	Student uses manipulatives (area model, set model) to show 50%, 100%, 25%, etc.	Follow directions
	MN1C.c	Student identifies equivalent fractions and percents.	Student will match fractions to appropriate percents using manipulatives (base ten blocks, hand-drawn models, etc.) Student will match fraction to appropriate percent using a graphic organizer	Fine motor manipulation Vocabulary development Basic operations

MAAECF Mathematics – Grades 6 – 8

Algebra Strand

MECF Mathematics Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
2. Explain, analyze, and generate patterns, relationships, and functions using numerals, symbols, words, and/or manipulatives.	Cluster 2 A. Pattern Analysis			
	MA2A.a	Student creates, describes, and extends a growing pattern.	Given manipulatives, student creates a growing pattern ($\triangle, \triangle\triangle, \triangle\triangle\triangle$) identifies the rule ($+1\triangle$) and extends the pattern. Given a number, student creates a growing pattern (given 2, student creates 2, 5, 8, 11, etc.) states the rule ($+3$) and extends the pattern.	Number recognition Basic counting Basic computation
	MA2A.b	Student identifies and extends numeric patterns when presented with a task.	Student will identify the differences between two given patterns (e.g., 3, 6, 9, 12 vs. 2, 4, 6, 8; the first pattern is $+3$ and the second pattern is $+2$)	Skip counting
	MA2A.c	Student completes input/output function table when given the rule.	Given a partially completed input/output table, student will model the number pattern using manipulatives, and continue the pattern with manipulatives to complete the table	Shape recognition Communication
Cluster 2 B. Functions and Relationships				
	MA2B.a	Student completes and creates number sentences to demonstrate understanding of multiplication.	Given a model of a multiplication problem using manipulative (multiplication area, sets of numbers/objects, etc.) the student will create the number problem for multiplication and solve it Student will use a multiplication table to create and solve multiplication problems	Reach/grasp/release Counting Number recognition
	MA2B.b	Student completes and creates number sentences to demonstrate understanding of division.	Given an even number of objects, student will separate the objects into equal groups, create the number problem for division and solve it	Follow Directions Work with others
	MA2B.c	Student applies the commutative and associative properties of addition and multiplication to solve problems.	Use students in class to represent addition or multiplication problems and the totals/sums, then use same students to represent the commutative or associative properties	

MAAECF Mathematics – Grades 6 – 8

Geometry Strand		
MECF Mathematics Competencies	Rating scale item #	MECF Objectives/Rating Scale Items
		Possible classroom learning activities/resources found in the environment (e.g., table legs - parallel clothing, furniture)
		Possible classroom learning activities/resources
		Possible support skills to integrate with academic instruction

MAAECF Mathematics – Grades 6 – 8

Measurement Strand		
MECF Mathematics Competencies	Rating scale item #	MECF Objectives/Rating Scale Items
4. Understand and use different forms and units of measurement in a variety of contexts.	Cluster 4A. Time	
	MM4A.a	Student applies time-related terms and concepts (responds to questions, estimates) in relation to real-life situations and problem solving.
	Cluster 4 B. Measuring Objects and Using Information	
	MM4B.a	Student measures an object to the nearest inch, foot, yard, or centimeter using the appropriate tool.
	MM4B.b	Student reads a thermometer and uses the information to make practical decisions.
	MM4B.c	Student uses appropriate tools to compare lengths, weights, or temperature, of common objects and materials.
	MM4B.d	Student identifies basic units of measurement in customary and metric systems.
	MM4B.e	Student measures fluids using customary and metric system units of measure.
		Student uses a daily schedule to keep track of classes and extra curricular activities Student estimates approximate times (e.g., hour, half hour) for daily activities using clock or schedule.
		Given items of specified measurements, determine which one will fit through the door, in a locker, etc. by measuring to the nearest appropriate unit (inch, foot, centimeter, etc.) Student reads and records daily temperatures and makes predictions of what the temperature may be Student matches a weather picture to a temperature Given a situation, choose the appropriate tool to compare measurements (choose a tape measure to compare heights of two students; choose a scale to compare weights of two objects, etc.) Student identifies in, ft, yd, cm, m for length. Student identifies ounces, pounds, grams, kilograms, etc. for measures of weight. Student identifies ounces, cups, pints, gallons, milliliter, liters, etc. for measuring volume. Student uses customary units to measure in cooking class and metric systems to measure in science experiments.
	Follow Directions Embed mode of communication Make choices Identify numbers Manipulate objects Follow directions	

Science Extended Curriculum Frameworks**Inquiry Strand**

Competency 1: Use tools and instruments to plan, conduct, and evaluate simple science experiments.

Cluster 1A Conducts Experiment

Cluster 1B Interprets Data

Cluster 1C Communicates Findings

Earth and Space Systems Strand

Competency 2: Identify and describe features of the Earth, the Earth's structure, and other objects in space.

Cluster 2A Planets and the Solar System

Cluster 2B Earth's Structure

Competency 3: Identify and describe living and nonliving factors that affect the environment.

Cluster 3A Factors Affecting the Environment

Life Science Strand

Competency 4: Identify and describe animals and plants and their environments.

Cluster 4A Plants and Animals

Competency 5: Identify and describe structures of living systems and their functions.

Cluster 5A Structures of Living Systems

Physical Sciences Strand

Competency 6: Demonstrate an understanding of basic concepts regarding matter, energy, motion.

Cluster 6A Matter and Changes

Cluster 6B Force and Motion

Cluster 6C. Forms of Energy

MECF Science Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
	Cluster 1B. Interprets Data			
	S11B.a	Student identifies observable features or traits (e.g., shape, texture, size, color, number) of objects and organisms.	Student gestures which items are soft/hard, etc. Student uses Boardmaker pictures with appropriate terms to describe features. Student sorts of objects by color, texture, shape, size, and purpose.	Sorting/classifying Visual discrimination
	S11B.b	Student predicts outcomes based on observations and previous experience.	Student selects picture of expected outcome after exploration with materials. Student draws picture of predicted outcome.	Tolerate touching different textures
	S11B.c	Student interprets data collected as part of an experiment (e.g., makes an accurate statement based on data; identifies a trend or result)	Student uses a switch to answer yes/no or true/false to statements provided about data or results. Using "Boardmaker," create pictures to Velcro to a felt board. Watch a science experiment/video and have student describe what he or she observes.	
1. Use tools and instruments to plan, conduct, and evaluate simple science experiments. (continued)	Cluster 1C. Communicates Findings			
	S11C.a	Student communicates understanding of concepts or results by choosing correct or appropriate outcome/summary	Student uses a switch to answer yes/no or true/false to statements provided. Student uses graphic organizer and objects or pictures to show results. Using "Boardmaker," create pictures to Velcro to a felt board. Student creates comic strip to show the sequence of steps in an experiment.	Embed mode of communication Increase content vocabulary
	S11C.b	Student develops graphs, charts, or other visual representations to communicate the results on an investigation.	Student creates a pictograph (e.g., using pictures of suns, clouds, rain) to label and then report the weather data. Student creates a bar graph based on data (e.g., numbers counted). Student uses stamp to mark table with tally.	

MAAECF Science – Grades 6 - 8
Earth & Space Science Strand

MECF Science Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
	SE2B.d	Student examines fossils and identifies whether they are from plants or animals.	Student makes simulated fossils of plants of animals to plant or animal examples	
	SE2B.e	Student observes and describes teacher demonstration of how rock are types are formed (e.g., heat, pressure, or both heat and pressure to form new rocks)	Teacher demonstration: using crayon shavings of different colors in foil: sedimentary/ pressed (stepped on to apply pressure); igneous/ heated (heated in foil with hair dryer); metamorphic/ pressure + super heated (crock pot or oven) to get total different color mix) (activity source: AIMS, Inc.)	
	SE2B.f	Student classifies resources as renewable or non-renewable, including energy sources	Student sorts pictures of renewable (e.g., lumber from trees, food from plants or animals, heat from the sun, wind energy, water) or non-renewable resources (e.g., coal, natural gas, petroleum take millions of years to produce)	
3. Identify and describe living and nonliving factors that affect the environment.	Cluster 3A. Factors that Affect the Environment			Embed mode of communication Increase content vocabulary Visual discrimination
3. Identify and describe living and nonliving factors that affect the environment. (continued)	SE3A.a	Student uses visuals to identify tornados and hurricanes and describe their effects	Student matches visuals tornados and hurricanes (pictures, video) with what they are called and examples of their effects.	
	SE3A.b	Student observes teacher designed water cycle activity and describes or orders pictures showing what happened	Teacher demonstrates heating water to evaporate it and cooling steam to create condensation (rain). Student labels and orders pictures to show water cycle. Student uses a switch to answer yes/no or true/false to statements provided about the water cycle (e.g., when water is heated by the sun it evaporates/becomes a gas/turns into water vapor)	
	SE3A.c	Student identifies ways in which humans affect living and nonliving things in the environment	Student organizes pictures to describe a "walking" field trip to identify places in the school yard or community where humans (e.g., litter or trash cans for litter) and non living things (e.g., erosion from heavy rain) have changed the environment in some way.	
	SE3A.d	Student identifies reasons that animals or plants might	Student uses a switch to answer yes/no or true/false to statements provided	

MAAECF Science – Grades 6 - 8

Life Science Strand

MECF Science Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
4. Identify and describe animals and plants and their environments. (continued)		(changes that resulted over time) of animals and plants that allow them to survive in their habitats.	observation to locate examples to make bulletin board display or PowerPoint (e.g., show how different bird beaks allow them to eat different kinds of foods specific to their habitat; or protective coloration)	different textures
	SL4A.f	Student identifies how plants and animals meet their basic needs for water, food, air, and shelter.	Student uses pictures or objects to complete a table showing specific organisms and how they meet needs for food, shelter, air, and water, including self	
	SL4A.g	Student describes characteristics of different aquatic and land ecosystems.	Use library and internet resources to look up and complete T-chart or table with examples Make models of land and water ecosystems	
	SL4A.h	Student identifies what plants need in order to make their own food (photosynthesis).	Student uses a simple completed diagram to explain parts of photosynthesis: sunlight comes into leaf, water and air combine with sun's energy to make food (sugar) + oxygen	Sorting/classifying
	SL4A.i	Student develops a food web using pictures or other media.	Student uses a switch to answer yes/no or true/false to statements about what living things need Care for living organisms over time and use "daily jobs" to list what they need. Select pictures of plants and animals showing which did/did not get what they need	Sequencing Organizing information
	SL4A.j	Student uses a food web model to identify organisms and their roles (producers make food and consumers eat food, and decomposers break down matter).	Use pictures and strings to make a food web to show more relationships of than one animal with sun and plants at the start	
	SL4A.k	Student recognizes what carnivores, herbivores, and omnivores eat.	Use library and internet resources to look up and complete T-chart or table with examples	
	SL4A.l	Student classifies animals using given criteria (e.g., carnivores,	Use library and internet resources to look up and complete T-chart or table with examples	

MAAECF Science – Grades 6 - 8

Physical Science Strand

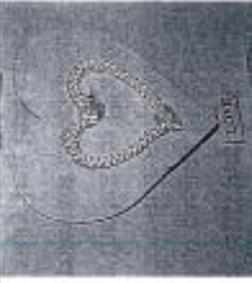
MECF Science Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
6. Demonstrate an understanding of basic concepts regarding matter, motion, and energy.	Cluster 6A. Matter and Changes			
	SP6A.a	Student classifies objects and materials as gases, solids, or liquids.	Student charts or sorts common household products (e.g., solid and aerosol/ gas deodorants, shampoo, soaps, etc.) as S-L-G.	Embed mode of communication
	SP6A.b	Student identifies activities that involve physical or chemical changes in substances (e.g., physical: squashing, cutting, sharpening, stretching, evaporating, chemical: baking, cooking, burning, rusting).	Students cook simple foods to show how they change due to chemical change; students also cut, break, and stretch foods to show physical changes	Following directions Motor skills Reach, grasp, and release Cross midline
	SP6A.c	Students identifies the effects of stirring, shaking, warming up objects in order to dissolve them in water (e.g., will it dissolve faster if I shake it?).	Student observes teacher demonstration or works with partner to find out what happens when ____; and records results.	Classifying
Cluster 6B Force and Motion				
	SP6B.a	Student follows simple directions to make and use a simple machine (e.g., pulley, lever, wedge, inclined plane).	Student completes a task with and without using a simple machine and compares result (e.g., harder/easier to lift, took longer to drag it than to put onto wheeled cart) Make door stopper (wedge) and explain how /why it works	Sorting/classifying Visual discrimination Reach, grasp, release Motor skills
	SP6B.b	Student explores, measures, and records the motion of an object (e.g., how amount of force can affect distance or	Student matches picture of common object with each simple machine (e.g., Lever – handles; Pulleys – Paper towel holder, etc.) Student constructs and uses simple machines	

References

- Individuals with Disabilities Education Act, 20 U.S.C. § 1400 *et seq.*, as amended by the Individuals with Disabilities Education Act Amendments of 1997, Pub. L. No. 105-17, 111 Stat. 37 (1997).
- Flowers, C., Browder, D., Wakeman, S., & Karvonen, M. (2007). "Links for Academic Learning: The Conceptual Framework." National Alternate Assessment Center (NAAC) and the University of North Carolina at Charlotte.
- McDonnell, L. M., McLaughlin, M. J., & Morrison, P. (Eds.). (1997). *Educating one and all: Students with disabilities and standards-based reform*. Washington, DC: National Academy Press.
- No Child Left Behind Act of 2001, Pub. L. No. 107-110, 115 Stat. 1425 (2002).
- Thompson, S.J., Johnstone, C.J., & Thurlow, M.L. (2002). *Universal design applied to large-scale assessments (Synthesis Report 44)*. Minneapolis, MN: University of Minnesota, National Center for Educational Outcomes.
- Webb, N. L. (1997). *Criteria for alignment of expectations and assessments in mathematics and science education (NISE Research Monograph No. 6)*. Madison: University of Wisconsin-Madison, National Institute for Science Education.
- Additional Resources for Alternate Assessments & Making Materials More Accessible**
- DC CAS Alt/District of Columbia Alternate Assessment. [Online] Available: <http://www.ihdi.uky.edu/ilssa/dc-cas-alt/> or <http://www.ihdi.uky.edu/ilssa/dc-cas-alt/teacherResources/Default.asp> (*online alternate assessment resources for teachers and parents*)
- Denham, A. (2004). Pathways to Learning for Students with Cognitive Challenges: Reading, Writing, and Presenting. Human Development Institute, University of Kentucky. [Online] Available: <http://www.ihdi.uky.edu/IEI/Files/Pathways%20to%20learning%20document.pdf> (*ideas for expressive and receptive adaptations to accommodate diverse learning styles*)
- Fichleay, K. and Dubuske, S. (2003). Adapting Books Assistive Technology Continuum. Boston Public Schools Access Technology Center. [Online] Available: <http://www.boston.k12.ma.us/teach/technology/emmanucl/ATAadaptBks.pdf> (*ideas for adapting text to accommodate diverse learning styles*)
- GA Alternate Assessment. [Online] Available: <http://www.georgiastandards.org/impairment.aspx> - (*Teacher Resource Guide, sample modified texts for ELA, sample assessment activities for mathematics, ELA, science, and social studies*)
- Hess, K. (2008). "Tools & Strategies for Developing and Using Learning Progressions." Presentation at the FAST-SCASS meeting, Atlanta, GA 2/6/08 [online] PowerPoint and article available: www.nciea.org

What do we mean by reading for the MS Alternate Assessment?

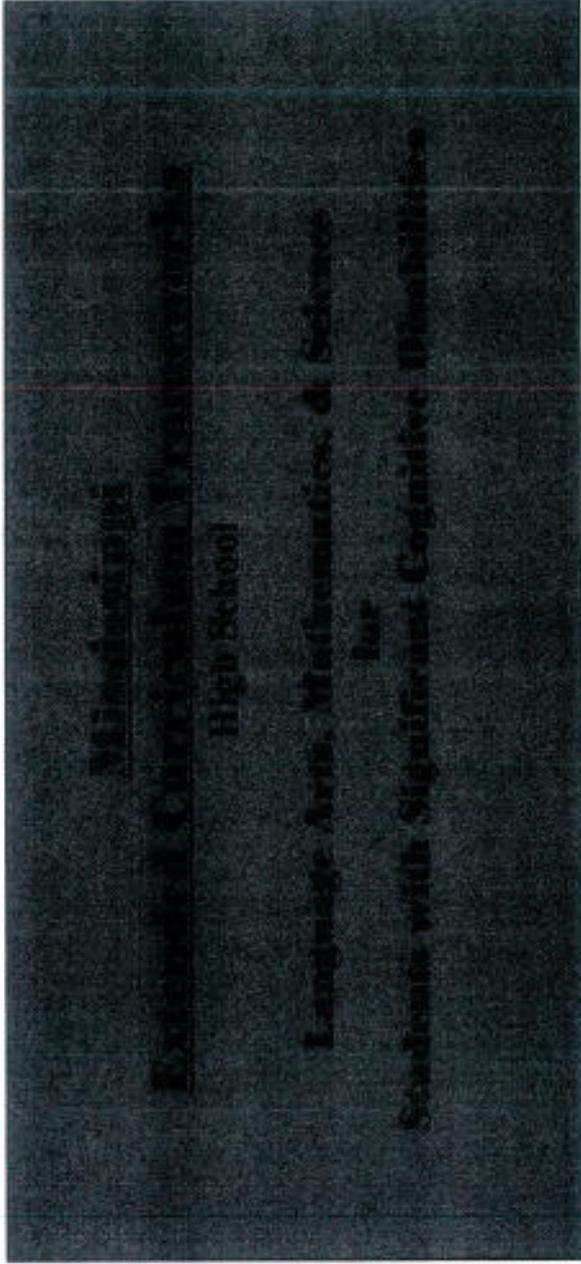
Students who have significant cognitive disabilities may be accessing and responding to information in a different way than typical students. For students taking the alternate assessment, “reading” may be defined as follows:

<p>Student listens <i>and follows</i> along with text</p>	<p>Romeo and Juliet fell in love.</p>	<p>http://bookbuilder.cast.org/</p>
<p>Student listens <i>and follows</i> along with pictures</p>	 <p>Romeo and Juliet danced and talked.</p>	<p>http://www.ric.edu/sherlockcenter/dsi/romeo.pdf</p>
<p>Student listens <i>and follows</i> along with objects</p>	 <p>Romeo and Juliet fell in love.</p>	<p>Denham, A. (2004). Pathways to Learning for Students with Cognitive Challenges: Reading, Writing and Presenting. Interdisciplinary Human Development Institute, University of Kentucky. [Online] Available: http://www.ihdi.uky.edu/IEI/</p>
<p>Student listens <i>and follows</i> along with tactile cues</p>	 <p>Romeo and Juliet fell in love.</p>	<p>http://www.tsbvi.edu/Education/vmi/images/love.jpg</p>

What do we mean by writing for MS Alternate Assessment?

Students who have significant cognitive disabilities may be accessing and responding to information in a different way than typical students. For students taking the alternate assessment, “writing” may be defined as the ordering of information and representing a complete thought. For some students representing a complete thought is done on a word by word basis, for other students it may be represented more holistically by an object or picture. Students may write by:

- Using stamps
- Using pictures
- Using objects
- Using written words
- Using Braille
- Using tactile cues
- Using a voice output device or other augmentative communication devices (e.g., to complete a cloze sentence, choose main ideas and/or supporting details to write a text)
- Ordering sentences (words, objects, pictures, tactile cues) into an essay
- Completing cloze sentences
- Using a computer with writing software (speech to text, picture writing, etc.)
- Using a pen, pencil or other writing utensil



The Mississippi Department of Education does not discriminate on the basis of sex, race, religion, age, national origin, ancestry, creed, pregnancy, marital or parental status, sexual orientation, or physical, mental, emotional or learning disability.

Revised October 2008

Introduction

The Mississippi Extended Curriculum Frameworks (MECF) High School includes curriculum content that students with significant cognitive disabilities at the high school level are expected to access and learn during the course of their instructional programs. The primary purpose of this document is to share the prioritized academic content with teachers, family members, and other educational stakeholders, and to guide the development of high-quality alternate assessments that assess the knowledge and skills representative of these extended standards. In this document, we provide: (a) a rationale for alternate assessment content standards; (b) the curriculum frameworks that bring these content standards to life for language arts, mathematics, and science instruction; and (c) some resources to support implementation in classrooms across Mississippi. This revised version of the MECF also includes additional guidance for teachers by including a number of sample “age-appropriate” classroom activities and possible support skills that can be used to plan classroom instruction that stimulates the development and use of the desired academic knowledge and skills.

Revised guidelines and protocols for collecting high quality evidence to support MAAECF ratings are still under development by the state at this time; however, teachers can begin to use this document to plan instruction and collect student work samples (e.g., documented teacher observations, student work products, recorded media) that can be used to establish a baseline about what students know and can do now (at the beginning of the school year) and to measure progress on the same skills and concepts later in the school year. It is anticipated that rating scales and data collection protocols *could be* revised in the following ways:

- Currently, one rating scale is used in the Mississippi Alternate Assessment of Extended Curriculum Frameworks (MAAECF) to evaluate student performance. It combines accuracy and independence into the same scale. The revised rating scales will likely include two separate rating scales in order to assess accuracy and independence separately on each assessment task. This is an approach currently used by many states’ alternate assessments and has been found to be a much more reliable and valid way to interpret student performance and to measure student progress across the school year. Teachers should begin to document both aspects – accuracy achieved on the task and level of independence in completing the task – when collecting assessment evidence.
- Currently, the same content objectives are being taught and assessed each year within the same grade span and sometimes even across grade spans. Beginning in 2008-2009, teachers will be focusing their instruction and assessment on different content objectives each year, so that exactly the same content is not being taught year after year. In some cases, such as learning safety rules for science investigations or answering comprehension questions in reading, the same content objective might be required; however, other clusters and specific content objectives will likely be different grade to grade. This change will encourage teachers to focus more instructional time on fewer objectives across the school year and to build on learning from the prior year. Differentiation of content across grades for students with significant disabilities can mean changing depth, breadth, or complexity of content as well new content introduced at later grade levels.

In 2002, the No Child Left Behind Act (NCLB) increased the federal government's emphasis on assessment and accountability systems to include requirements for annual statewide assessments of all students in Grades 3-8 and high school in reading/language arts, mathematics, and (by 2007) science. In addition, NCLB requires a disaggregated annual reporting of students' performance to insure that all groups (including students with disabilities) are making adequate progress toward the goal of having all students declared "proficient" on statewide assessments within the next 12 years. Recent interpretations of NCLB requirements by the United States Department of Education (USDOE, 2003) also allow that up to 1% of students in states and school districts may be counted as "proficient" toward federal accountability goals through participation in statewide alternate assessment.

The development and implementation of standards-based alternate assessments represents a promising strategy for increasing the inclusion and achievement of students with significant disabilities; however, it is not without challenges. The first critical challenge facing the state of Mississippi in once again redesigning its alternate assessment system was to ensure that the academic content to be included as language arts, mathematics, and science content was indeed academic and aligned to Mississippi's grade-level content standards. Academic content has been underrepresented in past instruction and research with students with significant cognitive disabilities; therefore extended curriculum frameworks in these curricular areas needed close analysis and revision. According to the National Alternate Assessment Center/NAAC, "to be inclusive of students with the most significant disabilities, states sometimes target Foundational Skills for assessment. These skills are commonly embedded in academic instruction and *are important and appropriate* to capture early academic achievement; but these skills are *not* aligned to academic content, because they are outside the general education construct (NAAC, 2007). Only a small portion of the overall extended curriculum frameworks should include foundational skills. Using the NAAC definition, Foundational Skills are skills that are *the assumed competence at all grade levels* specific to an academic context, such as orienting a book or turning a page as precursors to learning to read; or learning to follow a direction as a precursor to conducting a science investigation.

Defining What Content Alternate Assessments Should Measure

IDEA 1997 clearly states that students with disabilities should have access to the general education curriculum and academic standards. Moreover, this legislation requires that all students have opportunities and instruction allowing them to make progress in acquiring and mastering the skills and concepts included in state and district academic standards. This emphasis on attaining academic achievement represents a change from the previous focus on curriculum and inclusion practices traditionally provided to many students with significant disabilities. Although the law still maintains the right of each student with disabilities to an individually referenced curriculum, outcomes linked to the general education program have become the optimal target. It is no longer enough for students with disabilities to be present in a general education classroom. Students with significant disabilities also must have instruction, modifications, and accommodations that promote their progress toward the educational expectations of the larger student population.

LANGUAGE ARTS EXTENDED CURRICULUM FRAMEWORKS

Language Arts Extended Curriculum Frameworks

Reading Strand: Students use reading skills and strategies to decode and interpret symbols, words, and larger blocks of text. Students demonstrate the ability to use reading to acquire new information, refine perspectives, respond to the needs and demands of society and the workplace, and provide for personal fulfillment.

Competency 1: Use word recognition and vocabulary (word meaning) skills and strategies to communicate.

Cluster 1C Word Identification, Vocabulary, and Decoding Strategies

Competency 2: Apply strategies and skills to comprehend, respond to, interpret, and evaluate texts.

Cluster 2A Using Text Features and Text Structures

Cluster 2B Reading Comprehension

Writing Strand: Students develop a working knowledge of language as well as grammatical structures, diction and usage, punctuation, spelling, layout, and presentation. Students develop the ability to express personal ideas, understandings, desires, and needs in writing.

Competency 3: Express, communicate, evaluate, or exchange ideas effectively.

Cluster 3A The Writing Process

Cluster 3B Audience and Purpose

Cluster 3C Revising and Using Tools

Competency 4: Apply Standard English to communicate.

Cluster 4A Writing Mechanics

MAAECF ELA – High School

Reading Strand

MECF ELA Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
2. Apply strategies and skills to comprehend, respond to, interpret, and evaluate texts.	Cluster 2A Using Text Features and Text Structures			
	R2A.a	Student uses text features (e.g., photo, caption, illustration, charts, maps, map keys, diagrams, graphs) to obtain information	Student uses maps to track Western Expansion in the US as he/she reads Student answers questions about an organism based on text and magnified photos of the organism Student uses charts and text to answer comprehension questions	Communication system/device Visual discrimination
	R2A.b	Student recognizes signal words/phrases for order (e.g., first, next, last, later) and sequences major events or steps in a process	Student places an "X" on signal words and phrases for time order in text. Student uses a stamp or pictures to create a timeline of key events Student organizes pictures, words or objects into a story map Using sentence strips, student will put the major events or steps in a process in order	Sight word recognition Making choices Tracking
	R2A.c	Student recognizes signal words/phrases in texts read or heard orally and identifies cause-effect (e.g., because, this led to); descriptions (e.g., adjectives, definitions, examples); and compares-contrasts ideas or things (e.g., alike/not alike, same/different)	Student places an "X" on words and phrases in descriptive texts that create the description, such as adjectives, sensory words, examples Student matches cause with effect from a text Student paraphrases the description in a text Student highlights parts of the text that are comparing in yellow and parts that are contrasting in pink Student uses Venn diagram to list compare-contrast information Student places ideas under major headings from a text	Fine motor skills Tracing Matching
	R2A.d	Student makes inferences from text based on pictures and symbols	Students will answer questions that are not directly stated in the text ("She bought a lottery ticket. After the lottery she bought a new car, house and boat. What happened?") Student chooses the most likely missing piece of information from a given text by answering yes/no questions	Understanding emotions Identifying personal information

MECF ELA Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
	R2B.e	Student identifies main idea, topic sentence, and supporting details.	Given a set of sentences (using pictures, objects, or word), student will sort them by main idea, topic sentence and supporting details Student completes an outline template including main idea, topic sentence, and supporting details	
	R2B.f	Student identifies and uses figurative language (e.g., metaphor, simile, hyperbole, personifications, oxymoron, imagery).	Student will answer yes/no questions to identify types of figurative language Student will choose the appropriate metaphor to describe an event or object Student will complete sentences to create hyperbole (e.g., It took me (#) (days/weeks/months) to finish my homework) Student will activate a switch to indicate he/she has heard a simile in the description of the setting Student uses computer to highlight/point to hyperbole in text Student plays Jeopardy game with figurative language Student uses objects in the classroom to demonstrate personification (i.e. the pencil sharpener ate my pencil)	
	R2B.g	Student uses graphic organizer to link text information to a personal experience.	Student uses a thinking map Student uses a T-chart to match events in a text to events in personal experience Student uses a Venn Diagram to compare and contrast character traits to personal traits	
	R2B.h	Student distinguishes between fact and opinion using a variety of media sources.	Student attends to television commercial and answers question about whether the statements are fact or opinion Student touches facts in a print advertisement for CD. Student listens to a radio ad and repeats an opinion from it	
	R2B.i	Student summarizes an informational text using key ideas and supporting details.	Student chooses the objects that best represent the text Student writes a summary by completing sentence starters Student writes a summary by answering questions	

MECF ELA Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
	W3A.f	Student presents information on a researched topic through Power Point, report, essay, poster, or oral presentation.	<p>Student uses drag and drop computer device to create a Power Point on a research topic</p> <p>Student writes a research paper by completing cloze sentences using objects, pictures or words</p> <p>Student answers yes/no questions to choose the appropriate sentences for a research paper</p> <p>Student uses a template to write an oral presentation on a topic</p>	
	W3A.g	Student conducts a short interview to obtain information on a topic of interest and summarizes information gathered.	<p>Student uses VOD to ask interview questions and a recorder to record the answers. Teacher then provides student with ideas from the answers and student uses VOD to answer yes/no questions about which ideas are the most important</p> <p>Student takes notes on an interview by placing sticky notes that have respondent's answers on them after questions asked.</p> <p>Student summarizes information from the interview by highlighting the main idea of each question. Student then arranges sentence strips with main ideas written on them to create a summary</p>	
3. Express, communicate, or evaluate, or exchange ideas effectively (continued)	Cluster 3B Audience and Purpose			
	W3B.a	Student changes formal to informal language or informal to formal language.	<p>Student will change contractions (informal) into the complete phrases (formal)</p> <p>Student will exchange a slang word with a more appropriate vocabulary word from a word bank</p>	<p>Assistive technology</p> <p>Communication systems</p> <p>Motor skills</p> <p>Social interactions</p> <p>Turn taking</p> <p>Identifying personal information</p> <p>Matching</p> <p>Computer/stamper</p> <p>Use organizing strategies</p>
	W3B.b	Student uses written communication to inform.	<p>Student writes a report on science or social studies research</p> <p>Student completes a science lab report</p> <p>Student listens to classroom and school announcements over the PA system to write newsletters to family</p> <p>Student makes classroom informational board to inform the class of week's happenings</p>	

MECF ELA Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
	W3C.c	Student uses a computer or other electronic media to gather information about a topic.	<p>Student completes a web quest</p> <p>Student looks up information on a planet on NASA's website</p> <p>Student researches possible careers using the Internet</p>	



MATHEMATICS

EXTENDED CURRICULUM FRAMEWORKS

Mathematics Extended Curriculum Frameworks

Number and Operations Strand: Students recognize, represent, understand, and apply mathematical concepts and processes to situations within and outside of school. The definition of Number and Operations includes a range of skills including: rote counting; using pictures, objects, and symbols to denote meaning from numbers and quantities; and demonstrating an understanding of numbers as quantities that can be added, subtracted, multiplied, and divided.

Competency 1: Understand relationships among numbers and basic operations. Compute fluently and make reasonable estimates.

Cluster 1B Operations

Cluster 1C Fractions, Decimals, and Percentages

Algebra Strand: Students will use symbolic forms to represent, model, and demonstrate understanding of mathematical situations and apply mathematical concepts and processes to situations within and outside of school. Patterns, Functions, and Algebra include such skills as discrimination, sorting, matching, and sequencing.

Competency 2: Explain, analyze, and generate patterns, relationships, and functions using numerals, symbols, words, and/or manipulatives.

Cluster 2A Pattern Analysis

Cluster 2B Functions and Relationships

Cluster 2C Algebraic Procedures

MAAECF Mathematics – High School

Numbers and Operations Strand

MECF Mathematics Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
1. Understand relationships among numbers and basic operations. Compute fluently and make reasonable estimates.	Cluster 1B. Operations			
	MN1B.a	Student demonstrates the commutative and associative properties of addition and multiplication.	Students will understand $3 + 2 = 2 + 3$ Student will change grouping when adding (ex: $[1+2] + 3 = 1 + [2+3]$).	Identify numbers Write numbers
	MN1B.b	Student simplifies an expression using order of operations (e.g. $(5-3)3$ $2 \times 3 + 6$) $(2)3$ $6 + 6$ 6 12	Given the mnemonic for order of operations (p), e, m, d, x+, as + -, the student will complete the problem by identifying and simplifying one-step at a time before moving on to the next step.	Follow directions (to follow a formula) Use a calculator
	MN1B.c	Student adds whole number matrices.	Given matrices with the corresponding numbers to be added together color coded, the student will add the color coded numbers together to evidence addition of whole number matrices (e.g., $\begin{bmatrix} 2 & 3 \\ 5 & 1 \end{bmatrix} + \begin{bmatrix} 0 & 1 \\ 2 & 6 \end{bmatrix} = \begin{bmatrix} 2 & 4 \\ 7 & 7 \end{bmatrix}$)	
	Cluster 1C. Fractions, Decimals, and Percentages			
	MN1C.a	Student computes total cost, including the tip and/or sales tax on a given item.	Given word problems, student will determine total cost an item (e.g., A shirt costs \$20.00. Find the final price if sales tax is 7%). Choose items to order from a menu, total the cost, and determine tip and tax. Make a shopping list, estimate costs of each item, total cost, and add tax.	Use a calculator Match numbers Real-world contexts
MN1C.b	Student identifies the components of a specified formula (e.g., interest formula: principle, rate, time)	Given the formula $I = prt$ (I-interest, p-principle, r-rate, t-time) and a word problem, highlight the principle, rate, and time in the word problem and insert in the formula to solve the problem.		

MAAECF Mathematics – High School

Algebra Strand

MECF Mathematics Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
		<p>slopes of equations already in slope intercept form ($y=mx+b$, m represents slope).</p> <p>Given a simple linear equation and a completed t-chart, student graphs the results.</p>	<p>the lines are parallel or intersecting based on whether the slope is the same (parallel) or different (intersecting).</p> <p>Student creates ordered pairs from the t-chart and graphs the points on a coordinate grid</p>	<p>vocabulary</p> <p>Use mode of communication</p>
Cluster 2C. Algebraic Procedures				
	MA2C.a	<p>Student simplifies an algebraic expression, including like terms (e.g., $2x + x + 3$ $3x + 3$)</p>	<p>Student will use manipulatives or drawn models to combine like terms (e.g., xx x $///$ $$ $2x + x + 3 + 2$ xxx $////$ $3x + 5$)</p>	<p>Matching</p> <p>Counting</p> <p>Follow directions</p> <p>Use of switch</p>
	MA2C.b	<p>Student evaluates simple algebraic expressions using whole number values (e.g., $2x + 3$, when $x = 5$ $2(5) + 3$ $10 + 3$ 13)</p>	<p>Given a worksheet, student will evaluate the given algebraic expressions when given the value of X. Using an adapted computer program, student will press the correct number on the keyboard representing the given value of x, which will be inserted into the algebraic expression and then the student will hit enter to simplify the expression.</p>	
	MA2C.c	<p>Student solves simple linear equations with variable on one side of an equation (e.g., $4n = 12$), using whole numbers, fractions, and decimals.</p>	<p>Using an adapted computer program, student will press a number on the keyboard representing the value of x, which will be inserted into the algebraic expression and then the student will hit equals to solve the expression.</p>	

MAAECF Mathematics – Grades High School

Data Analysis and Probability Strand			
MECF Mathematics Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources
5. Collect and report data. Read and understand basic charts, graphs, and tables.	Cluster 5 A. Collecting and Reporting Data		
	MD5A.a	Student interprets a scatter plot in relations to the correlation shown.	Student will tell whether the data graphed in a scatter plot appears to have a positive, negative, or no correlation. http://www.purplemath.com/modules/scattreg2.htm
	MD5A.b	Student creates a scatter plot graph from given data	Given sets of data in the form of ordered pairs, student inputs the information in a spreadsheet and converts the information to a scatter plot. Given a set of data, student plots the points in the coordinate grid.
	Cluster 5B. Probability		
	MD5B.a	Student uses basic probability concepts to make predictions about an event.	Student estimates which outcome is more likely on a spinner. Given a bag with 3 yellow blocks and 10 blue blocks inside, student predicts which color is more likely to be selected.
MD5B.b	Student explains terms <i>always, sometimes, and never</i> as it relates to a probability event.	Given different scenarios of events, student will describe the likelihood of the event occurring using the terms <i>always, sometimes, never</i> .	
MD5B.c	Student conducts an investigation of probability and records the results.	Student conducts an investigation of probability of rolling doubles when given two dice and records the results in a table or graph	
			Number recognition Basic counting More/less
			Fine motor manipulation Use of communication

MAAECF Science – High School

Inquiry Strand

MECF Science Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
<p>1. Use tools and instruments to plan, conduct, and evaluate simple science experiments.</p>	Cluster 1A. Conducts Experiment			
	SI1A.a	Student observes and practices safe procedures in the classroom and the laboratory	Student gestures (yes/no) when asked or shown, "is this a safe way to work with materials?" Student selects pictures that show safe or not safe practices Student demonstrates appropriate safety practices.	Embed mode of communication Following directions Apply rules Motor skills
	SI1A.b	Student demonstrates proper use and care of equipment in the laboratory and classrooms (e.g., microscope, balance scale, beaker)	Teacher observation or video documents student demonstrating proper use and care of equipment. Teacher demonstrates proper and improper use and student uses communication device to identify correct uses.	Reach, grasp, and release Cross midline Basic counting
	SI1A.c	Student conducts a simple experiment to address a question or problem.	Labeled photo series of student following simple steps to measure, record, test objects, etc. Demonstrate a simple science experiment and ask him/her to repeat procedures	Using organizing strategies
	SI1A.d	Given a testable question, student uses the scientific method to answer the question (make prediction/hypothesis, choose or plan steps to investigate, collect data, and report data)	Labeled photo series of student following simple steps to measure, record, test objects, etc. Demonstrate a simple science experiment student repeats procedures Student creates or orders a comic strip to show the sequence of steps in an experiment.	Tolerate touching different textures Work with others

MECF Science Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
	SI1C.c	Student uses results of an experiment to draw conclusions that prove or disprove a prediction/hypothesis.	Student uses a switch to answer yes/no or true/false to statements comparing prediction/hypothesis to actual results Student compares prediction/hypothesis to results Student summarizes why prediction was/was not correct, using data	

MAAECF Science – High School

Life Science Strand

MECF Science Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
4. Identify and describe animals and plants and their environments.	Cluster 4A. Plants and Animals: Living Organisms and Adaptation			
	SL4A.a	Student compares adaptations (e.g., protective coloration; beak types in birds) of animals in land-based and water-based ecosystems.	Student uses library, internet resources, or observation to locate examples to make PowerPoint (e.g., show differences in feathers or wings of land and water birds). Student uses graphic organizer to compare-contrast water and land animals.	Embed mode of communication Following directions Motor skills
	SL4A.b	Student explains why animals belong to different classification groups or subgroups using similarities and differences (e.g., warm-blooded/cold-blooded; bird/fish/mammal/ reptile /amphibian)	Student uses a switch or touch to answer yes/no or true/false to statements provided. Student completes cloze statement. Student completes table with characteristics of each vertebrate using objects, pictures, or words (e.g., bird/fish/mammal/ reptile /amphibian) and tells/points or vocalizes why each example belongs there (e.g., snake is reptile because [a.] it lays soft-shelled eggs; [b.] and is cold blooded)	Reach, grasp, and release Cross midline Basic counting Sorting/classifying Visual
	SL4A.c	Student explains why plants belong to different	Student uses a switch or points to answer yes/no or true/false to statements provided.	

MAAECF Science – High School

Life Science Strand

MECF Science Competencies	Rating scale item #	MECF Objectives/Rating Scale Items	Possible classroom learning activities/resources	Possible support skills to integrate with academic instruction
4. Identify and describe animals and plants and their environments. (continued)	4C. Interdependence and Interactions			
	SL4C.a	Student uses a food chain or food web to explain the flow of energy.	Student uses a switch to answer yes/no or true/false to statements provided Student touches model/diagram to show energy flow and matches specific points with prepared statements. Student uses pictures or objects to sequence energy flow.	Embed mode of communication Following directions Motor skills
	SL4C.b	Students use a food web or food chain to describe relationships different aquatic and land-based ecosystems (consumer/producer/ decomposer, predator/prey)	Place labels from word bank or pictures in food web diagram to show relationships (e.g., predators and prey; consumer-bird/producer-plants/ decomposer-worm) Match terms (consumer/producer/ decomposer; predator/prey) with pictures	
	SL4C.c	Student uses a teacher demonstration, model, or diagram to create a diagram showing the carbon-oxygen cycle in an ecosystem	Student duplicates diagram. Student orders prepared pictures and statements to show carbon-oxygen cycle in an ecosystem.	
5. Identify and describe structures of living systems and their functions.	Cluster 5A. Structures of Living Systems: Cells			
	SL5A.a	Student identifies the cell as the "basic unit of structure and function in living things."	Student uses a switch to answer yes/no or true/false to statements provided about the cell (e.g., cells make up all parts of our body – blood, skin, bones, etc.; cells take food and oxygen to all parts of our body, etc.) Given a model of cell with parts, student places object on correct part when named.	Embed mode of communication Increase content vocabulary Motor skills Work with others Visual discrimination
	SL5A.b	Student identifies parts of animal and plant cells.	Given models of parts of plant and animal cells, student indicates which parts are in both (e.g., nucleus) and which are only in one cell (e.g., plant cells have walls and animals do not)	
	SL5A.c	Student compares parts of animal and plant cells and explain differences and similarities	Student uses objects (e.g., Cheenics) to make and label unicellular and multi-cellular	
	SL5A.d	Students use tools (e.g., microscope, viewer) or		

References

- Individuals with Disabilities Education Act, 20 U.S.C. § 1400 et seq., as amended by the Individuals with Disabilities Education Act Amendments of 1997, Pub. L. No. 105-17, 111 Stat. 37 (1997).
- Flowers, C., Browder, D., Wakeman, S., & Karvonen, M. (2007). "Links for Academic Learning: The Conceptual Framework." National Alternate Assessment Center (NAAC) and the University of North Carolina at Charlotte.
- McDonnell, L. M., McLaughlin, M. J., & Morison, P. (Eds.). (1997). *Educating one and all: Students with disabilities and standards-based reform*. Washington, DC: National Academy Press.
- No Child Left Behind Act of 2001, Pub. L. No. 107-110, 115 Stat. 1425 (2002).
- Thompson, S.J., Johnstone, C.J., & Thurlow, M.L. (2002). *Universal design applied to large-scale assessments (Synthesis Report 44)*. Minneapolis, MN: University of Minnesota, National Center for Educational Outcomes.
- Webb, N. L. (1997). *Criteria for alignment of expectations and assessments in mathematics and science education (NISE Research Monograph No. 6)*. Madison: University of Wisconsin-Madison, National Institute for Science Education.
- ### Additional Resources for Alternate Assessments & Making Materials More Accessible
- DC CAS Alt/District of Columbia Alternate Assessment. [Online] Available: <http://www.ihdi.uky.edu/ilssa/dc-cas-alt/> or <http://www.ihdi.uky.edu/ilssa/dc-cas-alt/teacherResources/Default.asp> (*online alternate assessment resources for teachers and parents*)
- Denham, A. (2004). Pathways to Learning for Students with Cognitive Challenges: Reading, Writing, and Presenting. Human Development Institute. University of Kentucky. [Online] Available: <http://www.ihdi.uky.edu/IEI/Files/Pathways%20to%20learning%20document.pdf> (*ideas for expressive and receptive adaptations to accommodate diverse learning styles*)
- Fichleay, K. and Dubuske, S. (2003). *Adapting Books Assistive Technology Continuum*. Boston Public Schools Access Technology Center. [Online] Available: <http://www.boston.k12.ma.us/teach/technology/emmanuel/ATAadaptBks.pdf> (*ideas for adapting text to accommodate diverse learning styles*)
- GA Alternate Assessment. [Online] Available: <http://www.georgiastandards.org/impairment.aspx> - (*Teacher Resource Guide, sample modified texts for ELA, sample assessment activities for mathematics, ELA, science, and social studies*)
- Hess, K. (2008). "Tools & Strategies for Developing and Using Learning Progressions." Presentation at the FAST-SCASS meeting, Atlanta, GA 2/6/08 [online] PowerPoint and article available: www.nciea.org
- Hess, K. (2008). "Teaching and Assessing Understanding of Text Structures across Grades." [online] available: www.nciea.org

What do we mean by reading for the MS Alternate Assessment?

Students who have significant cognitive disabilities may be accessing and responding to information in a different way than typical students. For students taking the alternate assessment, “reading” may be defined as follows:

Student listens <i>and follows</i> along with text	Romeo and Juliet fell in love.	http://bookbuilder.cast.org/
Student listens <i>and follows</i> along with pictures	 <p>Romeo and Juliet danced and talked.</p>	http://www.ric.edu/sherlockcenter/dsi/romeo.pdf
Student listens <i>and follows</i> along with objects	<p>Romeo and Juliet fell in love.</p> 	Denham, A. (2004). Pathways to Learning for Students with Cognitive Challenges: Reading, Writing and Presenting. Interdisciplinary Human Development Institute, University of Kentucky. [Online] Available: http://www.jhdi.uky.edu/IEI/
Student listens <i>and follows</i> along with tactile cues	 <p>Romeo and Juliet fell in love.</p>	http://www.tsbvi.edu/Education/vmi/images/love.jpg

What do we mean by writing for MS Alternate Assessment?

Students who have significant cognitive disabilities may be accessing and responding to information in a different way than typical students. For students taking the alternate assessment, “writing” may be defined as the ordering of information and representing a complete thought. For some students representing a complete thought is done on a word by word basis, for other students it may be represented more holistically by an object or picture. Students may write by:

- Using stamps
- Using pictures
- Using objects
- Using written words
- Using Braille
- Using tactile cues
- Using a voice output device or other augmentative communication devices (e.g., to complete a cloze sentence, choose main ideas and/or supporting details to write a text)
- Ordering sentences (words, objects, pictures, tactile cues) into an essay
- Completing cloze sentences
- Using a computer with writing software (speech to text, picture writing, etc.)
- Using a pen, pencil or other writing utensil